IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Liang et al
Appl. No.:   09/089,290
Filed: June 1, 1998
Title: Reduced Resolution Video Decompression

Art Unit: 2713
Examiner: Lee
Docket: TI-26415

APPELLANTS' BRIEF (in triplicate)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The attached sheets contain the Rule 192(c) items of appellants' brief. The Commissioner is hereby authorized to charge the fee for filing a brief in support of the appeal plus any other necessary fees to the deposit account of Texas Instruments Incorporated, account No. 20-0668; two additional copies of this first sheet of appellants' brief are enclosed.

Respectfully submitted,
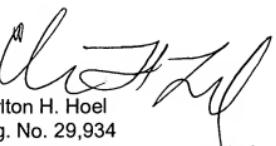
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Rule 192(c)(1) Real party of interest

Texas Instruments Incorporated owns the application.

Rule 192(c)(2) Related appeals and interferences

There are no related dispositive appeals or interferences.

Rule 192(c)(3) Status of claims

Claims 1-5 are pending in the application with all claims finally rejected. This appeal involves the finally rejected claims.

Rule 192(c)(4) Status of amendments

There is no amendment after final rejection.

Rule 192(c)(5) Summary of the invention

The invention provides a decoding of MPEG-type compressed video with a single frame having macroblocks decoded at different resolutions. Application figures 30a-30c and application pages 5-8 summarize a preferred embodiment, and application pages 15-18 detail the motion vector drift problem and how the invention overcomes the problem. This differing resolution decoding within a single frame allows for efficient conversion of high definition TV (HDTV) signals into standard definition TV by decoding I frames at full HDTV resolution, B frames at standard definition resolution, and P frames with differing resolution depending upon whether or not a macroblock is likely to lead to motion vector drift.

Rule 192(c)(6) Issues

The issue presented on appeal is:

whether claims 1-5 are anticipated by the Civanlar reference.

<u>Rule 192(c)(7) Grouping of the claims</u>

The claims are treated as a single group.

<u>Rule 192(c)(8) Argument</u>

(1) Claims 1-5 were rejected as anticipated by Civanlar. The Examiner cited

Appellants reply that Civanlar item 401 is a partitioned buffer containing plural images of varying resolution but which are treated as a single image by standard MPEG decoder 402 and decoded as such (column 11, lines 50-60). That is, MPEG decoder 402 does not change decoding resolution during its decoding as required by claim 1. Further, Civanlar item 409 is not a stored reference macroblock but rather part of compositor 407 which rearranges the output of MPEG decoder 402; that is, 407 does not do decoding and item 409 is a (decoded) line segment mapping table. Civanlar has no suggestion of the decoding of two macroblocks of the same predicted frame at differing resolutions as required by independent claim 1. Consequently, the claims are patentable over the reference.

1. A method of decoding video containing predicted frames, comprising the steps of:

   (a) decoding a first macroblock of a first predicted frame at a first resolution and decoding a second macroblock of said first predicted frame at a second resolution greater than said first resolution.

2. The method of claim 1, wherein:

   (a) said macroblocks have associated motion vectors.

3. The method of claim 1, wherein:

   (a) said video is MPEG encoded; and

   (b) said predicted frames are P frames.

4. The method of claim 1, wherein:

   (a) said first macroblock has high frequency component energy less than a threshold and said second macroblock has high frequency component energy greater than said threshold.

5. The method of claim 2, wherein:

   (a) said decoding of said second macroblock includes upsampling of a stored reference macroblock.